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BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Paper No. 18

Application Number: 09/201,278
Filing Date: November 30, 1998
Appellant(s): LIN ET AL.

Kyle B. Rinehart
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed December 11, 2002.

(1) Real Party in Interest

A statement identifying the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The brief does not contain a statement identifying the related appeals and interferences which will directly affect or be directly affected by or have a bearing on the decision in the pending appeal is contained in the brief. Therefore, it is presumed that there are none. The Board, however, may exercise its discretion to require an explicit statement as to the existance of any related appeals and interferences.

(3) Status of Claims

The statement of the status of the claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Invention

The summary of invention contained in the brief is correct.

(6) Issues

The appellant's statement of the issues in the brief is correct.

(7) Grouping of Claims

Appellant's brief includes a statement that claims 1, 3-6 stand or fall together, claims 7-10 stand and fall together, claims 11-12 stand and fall together, claims 13 and 15 stand and fall together, claims 16-18 stand and fall together, and claims 20-21 stand and fall together, and provides reasons as set forth in 37 CFR 1.192(c)(7) and (c)(8).

(8) Claims Appealed

The copy of the appealed claims contained in the Appendix to the brief is correct.

(9) Prior Art of Record

Yu et al, "Two-Dimensional Motion Vector Coding For Low Bitrate Videophone Applications", Proceedings, International Conference on Image Processing, vol. 2, pp. 414-417, October 1995.

(10) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claims 1, 3-4, 7-9, 11-13, 15-19, 20-22 are rejected under 35 U.S.C. 102(b) as being anticipated by Yu et al. This rejection is set forth in ¶2 of prior Office Action, Paper No. 9.

Claims 5-6, 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yu et al. This rejection is set forth in ¶4 of prior Office Action, Paper No. 9.

(11) Response to Argument

Part A:

Appellants' arguments do not pertains to any issues relating to the claimed subject matter, but rather a summary of the Yu et al article. The comments are noted, however no rebuttal is necessary.

Part B:

Appellants contend that Yu has not met the burden of establishing anticipation of what is claimed in claim 1. Especially the limitations of *"wherein the table includes the most probable pairs of joint differential motion vector components as computed by statistical analysis of example video sequences."* Examiner disagrees.

In Yu (p. 415, 2nd column, ¶2, cases 1, 2 & 3), the 290 codes in the VLC table represent the "possible" absolute DMV values i.e., DMV_x and DMV_y, which are determined through training runs. In the example, the size of the VLC table depends on a finite number of training runs. The "possible" DMV values represent the "most probable" pairs of DMV components as claimed. Histogram analysis as discussed in Yu is the statistical analysis as claimed.

Appellants further contend that Yu describes a VLC table that includes pairs of joint DMV components, however the pairs of joint DMV components in the VLC table are determined before use of a training set of video sequences. This argument is misplaced.

In fact, Yu (p. 16, 2nd column, [Simulation Results]) discloses that the 290 VLC codes are resulted from the training set of five test sequences. Later, Yu discloses (p. 417, middle of 1st column) that "the VLC code table is obtained based on a finite number of video sequences" i.e., based on the training set of five test sequences.

Appellants contend that Yu has not met the burden of establishing anticipation of what is claimed in claim 7. Especially the limitations of *"wherein training determines which x and y components to include in the entropy codebook"*. Examiner disagrees.

In Yu (p. 415, 2nd column, ¶2, cases 1, 2 & 3), again, the 290 codes of the VLC table represent the "possible" absolute DMV pairs, wherein each pair consists of DMV_x and DMV_y. As noted above, these DMV pairs are determined through training runs. Thus, DMVx and DMVy are the x and y components as claimed, and they represent a pair of DMV components which are included in the VLC table i.e. entropy codebook.

Appellants contend that Yu has not met the burden of establishing anticipation of what is claimed in claim 11. Especially the limitations of *"wherein statistical analysis indicates which differential motion vector components to represent with variable length codes and which differential motion vector components to represent with an escape code followed by fixed length codes."* Examiner disagrees.

Yu clearly discloses this aspect (p. 415, 2nd column, ¶2, cases 1, 2 & 3).

Appellants contend that Yu has not met the burden of establishing anticipation of what is claimed in claim 13. Especially the limitations of *"wherein the training determines which joint differential motion vector components to include in the table and which joint differential motion vector components to exclude from the table."* Examiner disagrees.

Yu discloses this aspect (p. 415, 2nd column, ¶2, cases 1, 2 & 3). It is emphasized that the determination of which DMV components fall within which regions (i.e., region A, B or C) effectively necessitates including/excluding DMV motion vector components from the VLC table.

Appellants contend that Yu has not met the burden of establishing anticipation of what is claimed in claim 16. Especially the limitations of *"wherein training determines which joint x and y motion vector components to represent in the set of available variable length codes."* Examiner disagrees.

In Yu (p. 415, 2nd column, ¶2, cases 1, 2 & 3, p. 417, also 1st column), the number of training runs determine the number of codes in the VLC table that represent the DMV pairs, wherein each pair consists of DMV_x and DMV_y. The DMVx and DMVy are the x and y components as claimed, and they represent a pair of DMV components which are included in the VLC table.

Appellants contend that Yu has not met the burden of establishing anticipation of what is claimed in claim 19. Especially the limitations of *"wherein the Huffman table includes variable length codes for the most probable joint differential x and y components as computed by statistical analysis of example video sequences."* Examiner disagrees.

In Yu (p. 415, 2nd column, ¶2, cases 1, 2 & 3), the 290 codes in the VLC table represent the "possible" absolute DMV values i.e., DMV_x and DMV_y, which are determined through training runs. In the example, the size of the VLC table depends on a finite number of training runs. The "possible" DMV values represent the "most probable" pairs of DMV components as claimed. Histogram analysis as discussed in Yu is the statistical analysis as claimed. In Yu, the VLC table is also referred to as the Huffman table.

Appellants contend that Yu has not met the burden of establishing anticipation of what is claimed in claim 20. Especially the limitations of *""wherein training determines which joint x and y motion vector components to represent in the set of available variable length codes."* Examiner disagrees.

In Yu (p. 415, 2nd column, ¶2, cases 1, 2 & 3, p. 417, also 1st column), the number of training runs determine the number of codes in the VLC table that represent the DMV pairs, wherein each pair consists of DMV_x and DMV_y. The DMVx and DMVy are the x and y components as claimed, and they represent a pair of DMV components which are included in the VLC table.

Appellants contend that Yu has not met the burden of establishing anticipation of what is claimed in claim 22. Especially the limitations of *""wherein the Huffman table*

includes variable length codes for the most probable joint differential x and y components as computed by statistical analysis of example video sequences." Examiner disagrees.

In Yu (p. 415, 2nd column, ¶2, cases 1, 2 & 3), the 290 codes in the VLC table represent the "possible" absolute DMV values i.e., DMV_x and DMV_y, which are determined through training runs. In the example, the size of the VLC table depends on a finite number of training runs. The "possible" DMV values represent the "most probable" pairs of DMV components as claimed. Histogram analysis as discussed in Yu is the statistical analysis as claimed. In Yu, the VLC table is also referred to as the Huffman table.

Appellants contend that claims 5 and 6 are allowable in view of the arguments for independent claim 1. Examiner's position remains the same for claims 5 and 6 for the same reasons as reflected in ¶4 of the previous Office Action (Paper no. 9).

Appellants contend that claim 10 is allowable in view of the arguments for independent claim 7. Examiner's position remains the same for claim 10 for the same reasons as reflected in ¶4 of the previous Office Action (Paper no. 9).

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

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February 23, 2003

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